In the claims:

Please amend claims 1, 6, 43, 44, and 49.

Please cancel claims 5, 13-16, 21, 23-27, 31-38, 47, and 48.

Please add new claims 50-68.

1.   **(Currently amended)** A recombinant fusion peptabody, which binds to an epidermal growth factor receptor selected from the group consisting of ErbB-1, ErbB-3, and or ErbB-4, comprising:

(a) a portion of a cartilage oligomer matrix polypeptide which is capable of oligomerizing;

(b) a peptide enhancer sequence having an amino acid sequence selected from the group consisting of YSFE, YSFEDL, YSFEDLY, YSFEDLYR, and YSFEDLYRR and ~~for increasing protein production~~ located at the N terminus of the peptabody ~~portion of the cartilage oligomer matrix polypeptide~~;

(c) a portion of a hinge region of an immunoglobulin polypeptide located at the C terminus of the portion of the cartilage oligomer matrix polypeptide; and

(d) an epidermal growth factor receptor ligand which can bind to the epidermal growth factor receptor, located at the C terminus of the hinge region,

wherein said recombinant fusion peptabody is capable of inducing cellular death in a cell expressing said epidermal growth factor receptor.

2.   **(Canceled)**

3.   **(Canceled)**

4.   **(Previously presented)** The recombinant fusion peptabody of claim 1, wherein said recombinant fusion peptabody is multimeric.

5.   **(Canceled)**

6.   **(Currently amended)** The recombinant fusion peptabody of claim 1, wherein said epidermal growth factor receptor ligand is selected from the group consisting of:

(a) an epidermal growth factor polypeptide or <u>receptor binding</u> fragments <u>thereof</u> or variants thereof,

(b) a growth blocking peptide or <u>receptor binding</u> fragments <u>thereof</u> or variants thereof,

(c) a TGF alpha polypeptide or <u>receptor binding</u> fragments <u>thereof</u> or variants thereof,

(d) a plasmocyte spreading peptide or <u>receptor binding</u> fragments <u>thereof</u> or variants thereof,

(e) a paralytic peptide or <u>receptor binding</u> fragments <u>thereof</u> or variants thereof,

(f) a cardioactive peptide or <u>receptor binding</u> fragments <u>thereof</u> or variants thereof,

(g) an amphiregulin polypeptide or <u>receptor binding</u> fragments <u>thereof</u> or variants thereof,

(h) a heparin-binding epidermal growth factor-like polypeptide or <u>receptor binding</u> fragments <u>thereof</u> or variants thereof,

(i) a betacellulin polypeptide or <u>receptor binding</u> fragments <u>thereof</u> or variants thereof, and or

(j) a viral EGF-like polypeptide or <u>receptor binding</u> fragments <u>thereof</u> or variants thereof.

7.   **(Currently amended)** The recombinant fusion peptabody of claim 6, wherein said epidermal growth factor receptor ligand is present in its full-length <u>sequence.</u> sequences.

8.   **(Previously presented)** The recombinant fusion peptabody of claim 1, further comprising a polyhistidine tag sequence.

9.   **(Previously presented)** The recombinant fusion peptabody of claim 1, further comprising at least one effector region.

10.   **(Previously presented)** The recombinant fusion peptabody of claim 9, wherein the effector region comprises a cytotoxin or a detection moiety.

11.   **(Canceled)**

12.   **(Previously presented)** The recombinant fusion peptabody of claim 10, wherein said detection moiety is fluorescent.

13-16. **(Canceled)**

17.   **(Previously presented)** A pharmaceutical composition comprising the recombinant fusion peptabody of claim 1, and a pharmaceutically acceptable carrier.

18-27. **(Canceled)**

28.   **(Previously presented)** A kit for treating cancer characterized by expression of an epidermal growth factor receptors selected from the group consisting of ErbB1, ErbB3, and ErbB4, in a human patient, said kit comprising the recombinant fusion peptabody of claim 1 and/or instructions for administering the recombinant fusion peptabody to the human patient for the treatment of cancer.

29.   **(Previously presented)** The kit of claim 28, further comprising a separate pharmaceutical dosage form comprising an additional anti-cancer agent selected from the group consisting of a chemotherapeutic agents, an anti-epidermal growth factor receptors antibody, a radioimmunotherapeutic agents, and combinations thereof.

30.   **(Previously presented)** A kit for diagnosing cancer characterized by expression of an epidermal growth factor receptors selected from the group consisting of ErbB1, ErbB3, and ErbB4, in a human patient, said kit comprising the recombinant fusion peptabody of claim 10, and instructions for use.

31-40. **(Canceled)**

41.   **(Previously presented)** An isolated peptide enhancer sequence comprising an amino acid sequence selected from the group consisting of: YSFE, YSFEDL, YSFEDLY, YSFEDLYR, YSFEDLYRR, a molecular chimera thereof, and variants thereof.

42.   **(Previously presented)** A recombinant protein comprising the enhancer peptide of claim 41.

43.   **(Currently amended)** A recombinant fusion peptabody, which binds to the epidermal growth factor receptor ErbB-1 comprising:

    (a) a portion of a human cartilage oligomer matrix polypeptide comprising amino acid residues 16 to 64 of SEQ ID NO: 1;

    (b) a peptide enhancer sequence for increasing protein production, located at the N terminus of the peptabody portion of the cartilage oligomer matrix polypeptide and having a sequence selected from the group consisting of YSFE, YSFEDL, YSFEDLY, YSFEDLYR, and YSFEDLYRR;

    (c) a portion of a hinge region of an immunoglobulin polypeptide comprising amino acid residues 65 to 83 of SEQ ID NO: 1, located at the C terminus of the portion of the cartilage oligomer matrix polypeptide; and

    (d) an epidermal growth factor receptor ligand which binds to the epidermal growth factor receptor and is located at the C terminus of the hinge region,

    wherein said recombinant fusion peptabody is capable of inducing cellular death in a cell expressing the epidermal growth factor receptor.

44.   **(Currently amended)** A monomer of a peptabody comprising

    (a) a portion of a cartilage oligomer matrix polypeptide which is capable of oligomerizing;

    (b) an enhancer peptide sequence having an amino acid sequence selected from the group consisting of YSFE, YSFEDL, YSFEDLY, YSFEDLYR, and YSFEDLYRR and located at the N terminus of the peptabody portion of the cartilage oligomer matrix polypeptide;

    (c) a portion of a hinge region of an immunoglobulin polypeptide located at the C

terminus of the portion of the cartilage oligomer matrix polypeptide; and

   (d) an epidermal growth factor receptor ligand located at the C terminus of the hinge region, wherein the epidermal growth factor receptor ligand binds to an epidermal growth factor receptor selected from the group consisting of ErbB-1, ErbB-3 or ErbB-4.

45. **(Previously presented)** The monomer of claim 44, wherein said monomer forms a multimeric molecule.

46. **(Previously presented)** The monomer of claim 45, wherein the multimeric molecule is pentameric or decameric.

47. **(Canceled)**

48. **(Canceled)**

49. **(Currently amended)** An isolated and recombinant fusion peptabody, which binds to an epidermal growth factor receptor selected from the group consisting of ErbB-1, ErbB-3, and ErbB-4, comprising:

   (a) a portion of a humanized or human cartilage oligomer matrix polypeptide which is capable of oligomerizing;

   (b) a peptide enhancer sequence having an amino acid sequence selected from the group consisting of YSFE, YSFEDL, YSFEDLY, YSFEDLYR, and YSFEDLYRR and for increasing protein production located at the N terminus of the portion of the cartilage oligomer matrix polypeptide;

   (c) a portion of a hinge region comprising 19 amino acids of an immunoglobulin polypeptide, located at the C terminus of the portion of the cartilage oligomer matrix polypeptide; and

   (d) an epidermal growth factor receptor ligand which binds to the epidermal growth factor receptor and is located at the C terminus of the hinge region,

   wherein said isolated and recombinant fusion peptabody is capable of inducing cellular death in a cell expressing said epidermal growth factor receptor.

50.   (New) The recombinant fusion peptabody of claim 43, wherein said recombinant fusion peptabody is multimeric.

51.   (New) The recombinant fusion peptabody of claim 43, wherein said epidermal growth factor receptor ligand is selected from the group consisting of:

(a) an epidermal growth factor polypeptide or receptor binding fragments thereof,

(b) a growth blocking peptide or receptor binding fragments thereof,

(c) a TGF alpha polypeptide or receptor binding fragments thereof,

(d) a plasmocyte spreading peptide or receptor binding fragments thereof,

(e) a paralytic peptide or receptor binding fragments thereof,

(f) a cardioactive peptide or receptor binding fragments thereof,

(g) an amphiregulin polypeptide or receptor binding fragments thereof,

(h) a heparin-binding epidermal growth factor-like polypeptide or receptor binding fragments thereof,

(i) a betacellulin polypeptide or receptor binding fragments thereof, and or

(j) a viral EGF-like polypeptide or receptor binding fragments thereof.

52.   (New) The recombinant fusion peptabody of claim 51, wherein said epidermal growth factor receptor ligand is present in its full-length sequence.

53.   (New) The recombinant fusion peptabody of claim 43, further comprising a poly-histidine tag sequence.

54.   (New) The recombinant fusion peptabody of claim 43, further comprising at least one effector region.

55.   (New) The recombinant fusion peptabody of claim 54, wherein the effector region comprises a cytotoxin or a detection moiety.

56.   (New) A kit for treating cancer characterized by expression of ErbB1 in a human patient, said kit comprising the recombinant fusion peptabody of claim 43 and/or instructions

for administering the recombinant fusion peptabody to the human patient for the treatment of cancer.

57.   (New) The kit of claim 56, further comprising a separate pharmaceutical dosage form comprising an additional anti-cancer agent selected from the group consisting of a chemotherapeutic agents, an anti-epidermal growth factor receptors antibody, a radioimmunotherapeutic agents, and combinations thereof.

58.   (New) A kit for diagnosing cancer characterized by expression of ErbB1 in a human patient, said kit comprising the recombinant fusion peptabody of claim 55, and instructions for use.

59.   (New) A recombinant fusion peptabody, which binds to the epidermal growth factor receptor ErbB-3 or ErbB4 comprising:

       (a) a human cartilage oligomer matrix polypeptide comprising amino acid residues 16 to 64 of SEQ ID NO: 1;

       (b) a peptide enhancer sequence for increasing protein production, located at the N terminus of the peptabody and having a sequence selected from the group consisting of YSFE, YSFEDL, YSFEDLY, YSFEDLYR, and YSFEDLYRR;

       (c) a portion of a hinge region of an immunoglobulin polypeptide comprising amino acid residues 65 to 83 of SEQ ID NO: 1, located at the C terminus of the portion of the cartilage oligomer matrix polypeptide; and

       (d) an epidermal growth factor receptor ligand located at the C terminus of the hinge region,

       wherein said recombinant fusion peptabody is capable of inducing cellular death in a cell expressing the epidermal growth factor receptor.

60.   (New) The recombinant fusion peptabody of claim 59, wherein said recombinant fusion peptabody is multimeric.

61.   **(New)** The recombinant fusion peptabody of claim 59, wherein said epidermal growth factor receptor ligand is selected from the group consisting of:

(a) an epidermal growth factor polypeptide or receptor binding fragments thereof,

(b) a growth blocking peptide or receptor binding fragments thereof,

(c) a TGF alpha polypeptide or receptor binding fragments thereof,

(d) a plasmocyte spreading peptide or receptor binding fragments thereof,

(e) a paralytic peptide or receptor binding fragments thereof,

(f) a cardioactive peptide or receptor binding fragments thereof,

(g) an amphiregulin polypeptide or receptor binding fragments thereof,

(h) a heparin-binding epidermal growth factor-like polypeptide or receptor binding fragments thereof,

(i) a betacellulin polypeptide or receptor binding fragments thereof, and or

(j) a viral EGF-like polypeptide or receptor binding fragments thereof.

62.   **(New)** The recombinant fusion peptabody of claim 61, wherein said epidermal growth factor receptor ligand is present in its full-length sequence.

63.   **(New)** The recombinant fusion peptabody of claim 59, further comprising a poly-histidine tag sequence.

64.   **(New)** The recombinant fusion peptabody of claim 59, further comprising at least one effector region.

65.   **(New)** The recombinant fusion peptabody of claim 64, wherein the effector region comprises a cytotoxin or a detection moiety.

66.   **(New)** A kit for treating cancer characterized by expression of ErbB1 in a human patient, said kit comprising the recombinant fusion peptabody of claim 59 and/or instructions for administering the recombinant fusion peptabody to the human patient for the treatment of cancer.

67.   (New) The kit of claim 66, further comprising a separate pharmaceutical dosage form comprising an additional anti-cancer agent selected from the group consisting of a chemotherapeutic agents, an anti-epidermal growth factor receptors antibody, a radioimmunotherapeutic agents, and combinations thereof.

68.   (New) A kit for diagnosing cancer characterized by expression of ErbB1 in a human patient, said kit comprising the recombinant fusion peptabody of claim 65, and instructions for use.